

POPULATION/ENVIRONMENT

Good evening everyone!

The title of my paper is Population and the Environment. My intention for this evening is to share with you my interest in the origins of the Population Awareness Movement or, as it is sometimes called, the Population Control Movement, how it came to occupy a parallel track to the Environmental Movement, and how it eventually became subsumed into the Environmental Movement. My interest in this subset of Human Geography was piqued by the relatively recent passing of the 50th anniversary of Paul Ehrlich's THE POPULATION BOMB and the number of articles written revisiting his work. Just so we are all on the "same page" when I speak of "population" I am referring to global population, the population of the entire world. If I wish to speak of the population of a specific continent, a country, or a geographic location, I will make that distinction clear in the paper.

The concern for over population, the sense that there are just too many people, is hardly a topic that is new to the present day. Aristotle warned that overpopulation led to increased poverty and crime and both he and his teacher and colleague, Plato, believed that it was the State's responsibility to regulate reproduction rates. Tertullian, in the 2nd century complained of the "teeming population" and "numbers burdensome to the world" when he spoke of his home town of Carthage. No, the concern about over population is not new.

And it was not new to the Reverend Thomas Robert Malthus when he penned his famous "Essay On The Principles Of Population" in 1798. Born in England, Malthus is considered one of the grand fathers of the Population Control Movement, a Movement which became popular in the early 20th century, over 100 years after the publication of Malthus' Essay. The basic theory of the essay was that population grows exponentially whereas food and other resources grow linearly. It becomes inevitable that at some future point in time the demand for food by the expanding population exceeds the supply and mass starvations occur, defined as a "Malthusian Catastrophe" or a Malthusian Crisis." Adherents to this theory became known as "Malthusians."

As the 19th century progressed interest in birth control methods increased as a means of family planning. This occurred primarily in Europe and the United States. A number of methods and treatments were available at that time – pessaries, vaginal suppositories, antiseptic spermicides, lavage solutions, condoms, and a host of home remedy elixirs and ingestibles meant to prevent pregnancy or induce a miscarriage (eg SAVIN an oil from the evergreen, PENNYROYAL from the mint family). In Britain, in 1877, the Malthusian League was founded, advocating for the broad use of contraception and rigorous family planning. League members were referred to as "Neo-Malthusians." Oddly enough, Thomas Malthus himself would never have been a member of the organization that now carried his name. His personal religious beliefs preached against the use of any artificial means of birth control. Neo-Malthusianism helped spawn the rise of the Eugenics Movement, a Movement which extended well into the 20th century.

Eugenics is a set of principles and practices that is intended to improve the genetic pool of the human population or subpopulation. With but a little imagination one can see where this type of thinking might lead. Historically, the Movement had targeted for sterilization the impoverished, the uneducated and/or the handicapped within a selected population. Adolf Hitler, perhaps the most famous proponent of eugenics, is also the chief reason why the word itself sometimes conjures nothing but the diabolical.

Today, the multiple forms of genetic testing available and the gene-splicing technique known by the acronym “CRISPR” – CLUSTERED REGULARLY INTERSPACED SHORT PALINDROMIC REPEATS – could be considered 21st century remnants of the Eugenics Movement. One no longer speaks of eugenics without considering the attendant philosophical and ethical issues.

The post WWII era saw a major upswing in interest in all things environmental. In 1948, here in the United States, two books were published which became inspirational and fundamental to the modern Environmental Movement. The first was Fairfield Osborn’s OUR PLUNDERED PLANET, which focused heavily on humankind’s poor stewardship of soils and terrain. The second book was William Vogt’s ROAD TO SURVIVAL. Vogt’s book, an attempt to be more global in scope, ultimately advocated for population control as a means to diminish the negative environmental impact of a growing population. These books were followed by Aldo Leopold’s A SAND COUNTY ALMANAC, in 1949. Leopold advocated for the idea of a “land ethic,” stressing the importance of people’s behavior with regard to the land on which they live. And Rachel Carson’s SILENT SPRING, published in 1962, exposing the deleterious effects of pesticides, is yet another of the important seminal works foundational to the modern Environmental Movement. In these works people, populations are viewed as both antagonists and protagonists.

Educational entities and governmental organizations were soon to begin producing papers and publications on population growth and environmental challenges. In 1963 a publication of substantial gravitas was issued by the National Academy of Sciences (National Research Council, Washington, DC) entitled THE GROWTH OF WORLD POPULATION. At the close of this document the Council recommended:

More aggressive but voluntary family planning

More research on birth control methods

More demographic research and more rigorous training of family planning administrators

And more international cooperation particularly with United Nations participation.

Initially, these aforementioned publications had somewhat limited international readership. But in 1968 a book was released which commanded immediate world wide attention. It is unlikely that anyone listening to me this evening is unfamiliar with Anne and Paul Ehrlich’s book, THE POPULATION BOMB. Published by the Sierra Club the book was written at the urging of then Sierra Club Executive Director, David Brower, who also wrote the Forward. As an aside, the present day leadership of the Sierra Club has made great efforts to distance itself from some of the contents of the book. At the time, the book was yet another source of “doom and gloom” in a year already marked by the assassinations of Dr. Martin Luther King Jr. and Robert F. Kennedy.

Ehrlich’s blunt style and “no holds barred” attitude is evident in the book from start to finish. He begins:

“The battle to feed all of humanity is over. In the 1970s the world will undergo famines-hundreds of millions of people are going to starve to death in spite of any crash programs embarked upon now . . . population control is the only answer.”

As more and more people, both scientists and lay persons, began reading Ehrlich’s book, the level of controversy over its contents commensurately increased. Although the focus of the controversy

centered on the prediction of mass starvations the book contains many other concepts, provisions and suggestions that helped to shape and stir the conversations on such matters as population control, population effects on the environment, philosophical and ethical issues raised by suggested methods of population control, birth rates, death rates and immigration policy. This list is not exhaustive. The conversations, discussions and debates continue to this day.

In 1960 the world population was about 3 billion people and it was estimated that 1 in 3 persons was considered to be living in a state of hunger. The United Nations defines hunger as a population experiencing severe food supply instability, meaning, the population could go for days without eating due to a lack of money, food, resources or all three. For comparison, today there are 7.9 billion people with about 1 in 9 living in a state of hunger (if you do the math there are actually slightly less total numbers of people living in hunger now as compared to the 1960s). Ehrlich was essentially predicting that up to one third of the world's entire population would succumb to starvation throughout the 1970s. Clearly, this did not happen. Why?

The short answer is: the Green Revolution!

The Green Revolution, also known as the Third Agricultural Revolution, involved the implementation of multiple advanced farming practices developed throughout the mid 20th century. These practices included:

The planting of high yield varieties of cereals

The use of more refined irrigation techniques

The introduction of chemical pesticides and fertilizers

Consolidation of farms into larger parcels

And the widespread use of state-of-the-art farming machinery.

These changes were introduced worldwide and full-scale implementation of these advances frequently resulted in a tripling of per acre yield!

Dr. Norman Borlaug, generally recognized as the father of the Green Revolution, was an American agricultural scientist whose development of high yield, disease resistant wheat varieties is estimated to have saved one billion lives! You might say that Borlaug alone was personally responsible for saving the 100s of millions of potential lost lives predicted by Ehrlich. For Borlaug's efforts he was awarded the Nobel Peace Prize in 1970.

I mentioned that the Green Revolution was the 3rd Agricultural Revolution. Inquiring minds might want to know what were the other two? The 1st Agricultural Revolution occurred at the very end of the Stone Age, the Neolithic Period, between the years 10,000 BCE and 5000 BCE, during which time humans transitioned from hunter-gatherers to farming based settlements. Many anthropologists agree that this "settlement" mode of living, precursors to more organized communities and cities, made it possible for significant growth to occur within the human population.

The 2nd Agricultural Revolution, also known as the British Agricultural Revolution, took place primarily during the 17th and 18th centuries and was defined by new crop rotation techniques, selective breeding

of various livestock and several inventions which vastly increased crop yields. These inventions included the steel plow, thresher/harvester machines and, eventually, the cotton gin.

It is interesting to note the effect that the continued improvement, over the centuries, in the time of transmission of information and the time of transportation of product had on the duration of each of these revolutions. The 1st Agricultural Revolution lasted thousands of years, the 2nd Agricultural Revolution lasted hundreds of years, and the 3rd lasted merely a few decades.

Ehrlich's comment about viruses and their potential as agents of population control was quite prescient. He writes of the possibility of a "super flu, perhaps more virulent than the famous killer of 1918 to 1920 . . . what if a much more lethal strain should start . . . in the starving more crowded population a few years from now? This could happen naturally or through the escape of a special strain created for biologic warfare. Modern transport systems would guarantee its rapid invasion of the far corners of the globe." Those words were written 50 years ago!

The POPULATION BOMB contains pages of Ehrlich's warnings concerning the over use of chemicals and pesticides, especially that of DDT. He quotes a passage from another husband and wife, co-authored book from 1967 entitled MOMENT IN THE SUN, by Robert and Leona Rienon. This borrowed passage, representing, perhaps, the ultimate in scientific rhetorical questions, is no less germane in 2021.

"What do all the thousands of minute, insignificant, tolerance doses of chlorinated hydrocarbons, the antibiotics, organic phosphates, herbicides, hormones, systemic insecticides, rodenticides, fungicides, preservatives, arsenic additives, the omnipresent sodium nitrates and sodium nitrites, tranquilizer residues, coal tar colors, the emulsifiers, propionates and possible carcinogens add up to in an average American's 6 month diet?" If you haven't seen the movie DARK WATERS, it's worth the time.

The Catholic Church was also one of the targets of the "BOMB." Ehrlich excoriated the Catholic Leadership for its insistence on the rhythm method of birth control and its opposition to all artificial means of birth control such as "the pill." It was probably more coincidental than not, but two months after the appearance of THE POPULATION BOMB Pope Paul VI, in July of 1968, issued his Encyclical, entitled HUMANA VITAE, in which he persisted in supporting Pope Pius XI's Encyclical, from 1930, prohibiting the use of any form of artificial birth control or abortion. It is important to note that Pope Paul VI's ruling against artificial means of birth control was at odds with the Majority Opinion of his own Pontifical Commission on Birth Control; the overwhelming majority of the 72 members of the committee favored allowing the decision to use oral contraceptives to be made by the married couples themselves.

Adamant as the Catholic Church was on birth control a number of Ehrlich's environmental exhortations were opinions also shared by the Vatican. In 1971 Pope Paul VI wrote of "an urgent need for radical change in the (environmental) conduct of humanity." Popes John Paul II and Benedict XVI each wrote treatises urging all citizens of the globe to adopt greater respect for the environment. LAUDATO SI', meaning PRAISE BE TO YOU, was Pope Francis' 2015 Encyclical subtitled ON CARE FOR OUR COMMON HOME. He, too, underscores the need for a dramatic increase in the globe's environmental consciousness but, again, does not address overpopulation or perceive it as even a remote contributor to negative environmental events. He states: "To blame population growth instead of extreme and selective consumerism . . . is an attempt to legitimize the present model of distribution where a minority (the wealthy) believes it has the right to consume in a way that could never be universalized . . ."

Ehrlich's book also provoked Organizations and Experts to engage in discussing the concept of earth's carrying capacity; just how many people can the planet support? In an attempt to answer the question Ehrlich and his team based their estimates on the preservation of the following parameters:

Adequate wealth and resources for everyone

Basic human rights

Preservation of cultural diversity

Allowance of intellectual, artistic and technological creativity

And preservation of biodiversity.

Thinking about those parameters one gets the distinct impression that the Ehrlich team was envisioning a world with the standard of living "universalized" (to steal Pope Francis' term) at about the present level of the middle to upper middle class within the United States. That being the case, it comes as no surprise that Ehrlich estimated earth's optimal population to be 1.5 to 2.0 billion people. Remember, the current world population by United Nations estimate is 7.9 billion people. The team did allow for a ceiling of 5 billion people, but, they pointed out, this could only be sustained with significant sacrifices in creature comforts, necessary dietary changes, reduced travel and other reductions in personal freedoms.

The April 28th, 1995 issue of SCIENCE, featured an international group of scholars who concluded: "carrying capacities in nature are not fixed, static or simple relations. They are contingent on technology, preferences and the structure of production and consumption . . . A single number for human carrying capacity would be meaningless because the consequences of both human innovation and biological evolution are inherently unknowable."

The United Nations' Global Environmental Alert Service, in June of 2012 issued a discussion paper in which the authors reviewed 65 different estimates of earth's carrying capacity, finding that a slim majority put the limit at or below 8 billion people, although the range was 2 billion to 64 billion people!

Eminent Harvard sociobiologist Edward O. Wilson thinks that 10 billion people is the ceiling but this is likely only if the world's population converts to a vegetarian diet, allowing all land and resources now used for meat production to be used for plant growth. He adds: "I think the epicenter of all our problems in the environment is runaway population growth."

And population ecologist Joel Cohen, of Columbia University, whose data was also used in the United Nations publication, ultimately concludes: "In truth, no one knows when or at what level peak population will be reached."

Well, so much for obtaining a "hard number" on carrying capacity!

Having averted the massive starvations anticipated, it was in the 1970s and 1980s that the two largest countries in the world, China and India, began addressing their own internal "carrying capacities" through a combination of legislation and penalties. China had mandated a one child per household maximum which has only recently been rescinded in favor of a three child maximum. India has had number of child limitations but these varied from state to state. In general, India has attempted to

adhere to a two child per household mandate and in its most populous states a one child per household mandate is now being considered.

Enforcement of these mandates in both China and India has been quite uneven. Large cities tend to be in more compliance than outlying rural zones likely due to the overwhelming presence of state agencies and enforcement personnel within the urban core. It should come as no surprise to anyone that with such policies in place throughout the late 20th century extending into the 21st century the numbers of voluntary and involuntary sterilizations and abortions in China and India have numbered into the tens of millions.

A movement born out of concern for overpopulation and on the heels of THE POPULATION BOMB was the Zero Population Growth Movement, or, "ZPG." Paul Ehrlich is considered one of the father's of ZPG, the Movement rising to prominence in the late 1960s in the United States and in parts of Western Europe. The basic principle of ZPG is that of demographic balance; the number of people in a specified population neither grows nor declines, with the ultimate goal of matching this predetermined ideal balance of population with environmental sustainability.

But, as the 20th century was coming to a close, the 1994 International Conference on Population and Development, held in Cairo, Egypt, and sponsored by the United Nations, set a decidedly new direction to the Population Control Movement. At the Conference the seismic shift propounded included:

- 1) The acknowledgement that men and women, mothers and fathers, should be in the primary positions to decide how many children to bring into the world, not the governments or bureaucratic agencies. And
- 2) The conversations about curtailing population, about the complex relationships between population and development and population and the environment, are meaningless without the full and equal participation of women; there must be education and choice for all women at all locations on the globe. This second tenet was based, in part, on the growing amount of data indicating that women, given basic education and full job opportunities, tend to choose to have smaller families.

Augmenting the United Nations' insistence of women's rights and the shift to personal choice with regard to numbers of offspring, were the incalculable benefits of the Internet, the heightened consciousness of global diversity, particularly that of race and religion, and the overwhelming support of multiple publications and some Think Tanks. The May 31st Issue of the Cato Institute from 2019 makes use of the following analogy to represent the new stance on population and the environment.

"The world's resources are finite in the same way that the number of piano keys is finite. The instrument has only 88 notes, but those can be played in an infinite variety of ways. The same applies to our planet. The earth's atoms may be fixed, but the possible combinations of these atoms are infinite. What matters, then, is not the physical limits of our planet, but human freedom to experiment and reimagine the use of resources that we have."

If you were ever wondering what a "faith statement" was or sounded like, you just heard one! There is an enormous amount of faith expressed in that analogy, faith in humankind's future innovative abilities.

The shift in attitude away from "how many people are living on the planet" to "how those on the planet are living" became so compelling in the early years of the 21st century that the ZPG Movement, whose

name was now felt to focus so unnecessarily on sheer numbers, adopted its new and present name, POPULATION CONNECTION, in 2002. And stated on their website: “we advocate to achieve population stabilization through better access to and increased education about voluntary family planning.”

Now, as the 21st century progresses, it is very important to interject that the continued growing awareness of global diversity, especially with regard to race, exposes the potential for inherent racism in some population control models. The suspicion of racism is quite understandable when one realizes that through the year 2050 it is projected that half of the world’s population growth will be concentrated in just 9 countries: India, Nigeria, the Democratic Republic of the Congo, Pakistan, Ethiopia, the United Republic of Tanzania, the United States, Uganda and Indonesia; these being primarily populations of color. This concern is one of the reasons the United Nations continues to stress choice and education for all peoples, especially the impoverished.

So where is the Population Movement today, October 18th, 2021? In my opinion, the Movement has been largely subsumed by the Environmental Movement and that Movement’s numerous constituent parts, these parts each addressing population no longer in terms of total numbers of people or target numbers but, rather, stressing:

An increase in access to family planning services and a global increase in the availability of such services

An emphasis on gender equality particularly in the areas of education and workplace

The development of new contraceptives and making more readily available the traditional methods of birth control

And globally increasing internet access as a means of education and information dissemination; it is estimated that nearly 40% of the world’s population is “off-line.”

I have noticed that after I’ve written each of my papers there lingers a question, or an idea, or a particular thought likely born of the research, the editing, and all the cogitation that takes place while working on such projects. I’m sure many of you have experienced this phenomenon. From tonight’s paper I have two lingering notions that I’d like to share with you. One is in the realm of wishful thinking, the other is a bit more concrete.

The first thought:

How might the world be different, 50 years later, had Pope Paul VI followed the Majority Opinion of his Pontifical Commission and sanctioned the use of “the pill” among married couples? Given that scenario I would hope that by now, across the globe, nearly every pregnancy would be desired, every child wanted. My tethers to reality inform me I am guilty of the common misconception that one can change a single variable in a dynamic system and expect all other variables to remain unchanged. Yes, I’m guilty as charged, but that still would have been the most desired outcome.

The second thought involves Pope Francis’ quote concerning the advantaged minority living in such a way that could never be universalized. What did Pope Francis mean by “universalized?” Did he mean the “pie” divided by 7.9 billion? Probably not, or, not exactly, but I do believe his statement is a call for the “deep dive” into the minimum standards and basic resources necessary to provide each and every human with – and it is hard to improve upon Ehrlich’s parameters –

Their fair share of resources

Their basic human rights

Their ability to preserve their cultural diversity

The allowance for intellectual, artistic, and technical creativity

And doing all these things while preserving biodiversity across all species.

This is quite a “tall order,” (or, the “devil” is in the details!) but the conversation has already begun, and fundamental efforts have already commenced. As the Dutch proverb optimistically encourages:

“He who is outside the door already has a good part of the journey behind him.”

Thank you!